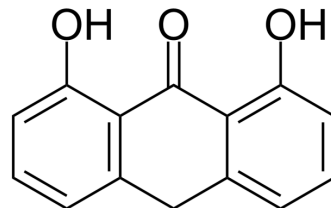


## Dithranol

<b>Cat. No.:</b>	HY-B0738		
<b>CAS No.:</b>	1143-38-0		
<b>Molecular Formula:</b>	C <sub>14</sub> H <sub>10</sub> O <sub>3</sub>		
<b>Molecular Weight:</b>	226.23		
<b>Target:</b>	DNA/RNA Synthesis		
<b>Pathway:</b>	Cell Cycle/DNA Damage		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 10 mg/mL (44.20 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	4.4203 mL	22.1014 mL	44.2028 mL
		5 mM	0.8841 mL	4.4203 mL	8.8406 mL
10 mM		0.4420 mL	2.2101 mL	4.4203 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: 1 mg/mL (4.42 mM); Suspended solution; Need ultrasonic</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: 1 mg/mL (4.42 mM); Suspended solution; Need ultrasonic</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 1 mg/mL (4.42 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Dithranol (Anthralin) is an anthraquinone derivative, with potent anti-psoriatic effects. Dithranol can inhibit DNA replication and repair <sup>[1][2]</sup> .
<b>In Vitro</b>	<p>Dithranol (1.1 μM) inhibits replication in T98G cells by 50%<sup>[2]</sup>.</p> <p>Dithranol (0.1-0.5 μg/mL; 2-4 hours) increases the mRNA production of interleukin-10 receptors in a concentration dependent manner in HaCaT cells<sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

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RT-PCR<sup>[3]</sup>

Cell Line:	HaCaT cells
Concentration:	0.1 µg/mL, 0.25 µg/mL, 0.5 µg/mL
Incubation Time:	2 hours, 4 hours
Result:	Increased the mRNA production of interleukin-10 receptors in HaCaT cells.

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## REFERENCES

- [1]. L Kemény , et al. Dithranol: a review of the mechanism of action in the treatment of psoriasis vulgaris. *Skin Pharmacol.* 1990;3(1):1-20.
- [2]. J M Clark, et al. Inhibition of DNA replication and repair by anthralin or danthron in cultured human cells. *J Invest Dermatol.* 1982 Jul;79(1):18-22.
- [3]. A Farkas, et al. Dithranol upregulates IL-10 receptors on the cultured human keratinocyte cell line HaCaT. *Inflamm Res.* 2001 Jan;50(1):44-9.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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